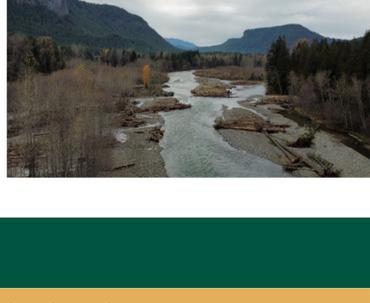


Featured Article

Climate Change and Watershed Planning on the Gifford Pinchot National Forest

This Northwest Climate Hub's Adaptation-in-Action series profiled the work of the aquatics team on the Gifford Pinchot National Forest in southwestern Washington. The team is restoring historically damaged watersheds and including climate change adaptation planning into their work. By incorporating climate change information, they can restore functioning watersheds while helping forests adapt to changing snowpack and streamflow. Check out the profile to learn more about the aquatics team's great work.



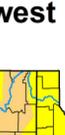
Drought Update

Alaska is not currently experiencing any abnormally dry or drought conditions.

A wet week for much of Idaho, Oregon, and Washington improved the start of the current water year, with continued wetness helping with long-term drought issues. Temperatures were cooler than normal for most of the region, with some areas of Oregon 8-10°F below average over the past week. Improvements in drought conditions occurred in coastal regions of Oregon and Washington, where moderate and severe drought (D1-tan, D2-orange) were reduced to abnormal dryness (D0-yellow) to no drought (white). Areas of northern Idaho also had drought conditions improved, moving from moderate drought (D1-tan) to abnormally dry (D0-yellow). Southeastern Idaho saw a small reduction in Extrem DrougNorthcentral Washington saw moderate drought expand.



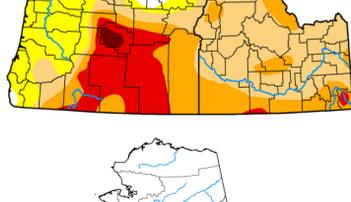
NIDIS National Integrated Drought Information System



CoCoRHaS Community Rain Hail Snow Network

Condition Monitoring Observer Reports - Drought

U.S. Drought Monitor USDA Northwest Climate Hub



November 15, 2022
(Released Thursday, Nov. 17, 2022)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	71.35	28.65	19.18	7.79	3.16	0.16
Last Week 11-08-2022	71.35	28.65	19.32	8.02	3.37	0.16
3 Months Ago 08-15-2022	79.42	20.58	12.65	7.75	3.90	0.16
Start of Calendar Year 01-04-2022	74.10	25.90	23.79	15.09	6.81	2.01
Start of Water Year 20-01-2022	70.29	29.71	18.36	7.80	3.90	0.16
One Year Ago 11-16-2021	73.13	26.87	26.29	23.24	12.78	3.72

Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:
Brad Rippey
U.S. Department of Agriculture



droughtmonitor.unl.edu

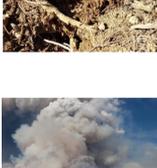
Information



Northwest Cover Crops
This Hub webpage describes how cover crops can make farms more resilient to the impacts of climate change by enhancing soil health and water quality.



Northwest No-Till Farming
This Hub webpage explains how no-till farming keeps crop residues on farmland, protects soil, and limits the release of greenhouse gases.



Assisted Population Migration for Future Forests in Washington
This Adaptation-in-Action profile explores how assisted population migration of conifers could help increase resilience of Washington forests to climate change.



Snow Water Equivalent (SWE) in the Northwest
Climate change will affect amount and duration of snow, a critical source of water. This Hub webpage describes the importance of SWE for Northwest agriculture, rangelands, and forestry.



Climate Change and Wildfire in Alaska
Explore this Hub webpage to learn about the increasing risk of large, frequent, and severe wildfires in Alaskan forest and tundra ecosystems.



Increasing La Niñas and Climate Change
Explore this AgClimate article to learn about how changes in sea temperatures due to climate change are causing increased La Niña years.



Fast-Onset Droughts are Accelerating
Learn how fast-evolving drying events are becoming more common throughout the United States, threatening crops, livestock, and livelihoods.



Implementing the Steps to Resilience: A Practitioner's Guide
This NOAA framework helps climate service practitioners to understand exposure, assess risk, investigate options, and prioritize, plan, and take action on climate resilience planning.



5th National Climate Assessment Public Comment
The period for public comment on the 5th National Climate Assessment is now open until 27 January 2023. Note that all feedback received through these reviews will be considered by the chapter authors for future drafts of the assessment.



2022 Water Year Impacts Survey
The goal of this survey is to gather information about impacts and response actions implemented during the 2022 water year (October 1, 2021 - September 30, 2022) due to abnormally dry or abnormally wet conditions.

Opportunities

USFS Fellowship on Climate Change Integration in Tribal Forest Management. The Northwest Climate Hub is accepting applications for a fellowship opportunity that will focus on supporting the integration of climate change in tribal forest management plans. The fellow will develop relationships with Tribes in Idaho, Oregon, Washington, and Alaska, as well as scientists at the Pacific Northwest Research Station. **Applications due 22 November.**

USFS Fellowship on Climate Change Integration in National Forest Management in the Pacific Northwest. The Northwest Climate Hub is accepting applications for a fellowship opportunity that will focus primarily on efforts to support integration of climate change in national forest management in the USDA Forest Service's Pacific Northwest Region. The fellow will develop relationships with scientists and land managers at the Pacific Northwest Research Station and Pacific Northwest Region of the USDA Forest Service. **Applications due 22 November.**

Art x Climate: A Project of the Fifth National Climate Assessment. Artists are invited to engage in the development of the Fifth National Climate Assessment by creatively visualizing climate change in the United States. Art x Climate seeks to strengthen partnerships between science and art and demonstrate the power of art to advance the national conversation around climate change. Selected art submissions will be featured in the Fifth National Climate Assessment. Selected artworks may also be used in case studies, public events, or communication materials. **Submissions due by 11:59 PM ET on 27 January 2023.**

Webinars

Tribal Health and Adaptation Roundtable Webinars, every 3rd Tuesday until October 2023, 10 am PST. Monthly, 2-hour webinars will advance the knowledge, skills, and networks of Tribes adapting to climate change. The training will include instruction, tools, and templates on advanced health adaptation topics and discussions. Participants will have the opportunity to contribute to live conversations or asynchronously to "wisdom wells."

November Alaska Climate Outlook Briefing, 18 November, 12 pm AKST. The briefing will review recent and current climate conditions around Alaska, discuss forecast tools, and conclude with the Climate Prediction Center's forecast for December 2022 and the winter.

Restoring Oregon's Dry Side Forests, every other Wednesday from 7 December - 5 April, 6-7:30 PM PST. This series will explore the complexities of "restoring" forests and other ecosystems to conditions in keeping with historic conditions. The series considers ecological limitations and desired conditions, implications of long-term fire suppression, invasive species, and changing climate conditions, and how objectives and perceptions influence management actions.

Considering Equity in Wildfire Risk and Protection, 1 December, 10 am PST. This webinar, organized by Oregon State University, will summarize recent research examining the equity implications of rising wildfire risk and associated costs, including insurance coverage and the comparative costs for risk management activities in populations with different incomes.

Fires of Unusual Size: Future of Extreme Wildfire in the Continental United States, 8 December, 11 am-12 pm MT. Climate change in the coming decades will drive more frequent occurrences of fires in regions where wildfire was rare, and unprecedented increases in the size of the largest fires in regions where fires were common (i.e., in the western United States). Join this webinar from the North Central Climate Adaptation Science Center to learn more.

Climate Change Resilience and Adaptation for Urban Forests, 14 December, Time TBA. The issues caused by climate change affect all landscapes but can be exacerbated in an urban setting. This webinar will explore ways that the urban forestry community and partners are adapting to climate change by taking actions to create more climate-resilient communities.

December Alaska Climate Outlook Briefing, 16 December, 12 pm AKST. The briefing will review recent and current climate conditions around Alaska, discuss forecast tools, and conclude with the Climate Prediction Center's forecast for January 2023 and the winter.

Pacific Northwest Drought Early Warning System Drought and Climate Outlook, 18 December, 11 am PST. This webinar will provide timely information on current and developing drought conditions. Speakers will also discuss the impacts of these conditions on events such as wildfires, floods, disruption to water supply and ecosystems, as well as impacts to affected industries like agriculture, tourism, and public health.



Workshops & Conferences

2022 Affiliated Tribes of Northwest Indians Tribal Leaders Climate Change Summit, 28-30 November, Spokane, WA. The Summit will engage Tribal leaders, citizens, staff, youth and collaborators in conversation about navigating the cultural, economic, and social challenges of climate change. This summit provides a forum for discussion among Tribal communities on the front lines of climate change, and an opportunity to discuss how Tribal sovereignty and co-management can advance climate action.

Arctic Rivers Summit, 6-8 December, Anchorage, AK. This workshop will discuss the current and future states of Alaskan and Yukon rivers and fish, and adaptation options. The Summit will bring together up to 150 Tribal and First Nation leaders, community members, managers, and knowledge holders, western scientists, federal, state, and provincial agency representatives, academic partners, non-governmental organizations, and others. The Summit is being held as part of a five-year Arctic Rivers Project funded by the National Science Foundation's Navigating the New Arctic Program.

Carbon Friendly Forestry Conference 2022, 7-8 December, Online Only. The Pacific Northwest's forests, if managed intentionally, can be powerful tools for carbon storage, ecosystem services, community resilience, and environmental justice. This year's conference from the Washington Environmental Council includes presentations and conversations on topics such as community forestry, climate-smart wood supply chains, wildfire, carbon offsets, connections between forestry and water, forests, state lands, and forest carbon science.

Oregon Post-Fire Research and Monitoring Symposium, 7-8 February, Corvallis, OR and Virtual. The symposium will provide practitioners and policy-makers an opportunity to discuss how new discoveries in western Oregon wildfires can inform future decisions, and aims to promote collaboration between institutions/agencies involved in post-fire research and monitoring. Register by 15 January.

SoilCon 2023, 14-15 February, Online Only. Soil health is trending topic in agricultural production and environmental resilience. Online only. Soil health is trending topic in agricultural production and how can we put it into practice for regional systems? SoilCon aims to address these questions for agriculture or natural resource professionals, producers, consultants, University faculty and students, and interested members of the public.

Funding Opportunities

November
Funding to Expand Monitoring of Soil Carbon. This program will support and expand monitoring of carbon in soil on working agricultural lands and assess how climate-smart practices are affecting carbon sequestration. The Natural Resources Conservation Service will fund one agreement in the West. Funding ranges from \$1.5 to \$2 million, and projects will last two to five years. Applications must include a strategy to reach equity of program delivery in historically underserved communities. Partners will work collaboratively to complement soil carbon monitoring efforts taking place across USDA. **Applications due 28 November.**

December Cont.
Foundational and Applied Science Program. The USDA National Institute of Food and Agriculture's Agriculture and Food Research Initiative supports grants in six priority areas to advance knowledge in both fundamental and applied sciences important to agriculture. The six priority areas are: Plant health and production and plant products; animal health and production and animal products; food safety, nutrition, and health; bioenergy, natural resources, and environment; agriculture systems and technology; and agriculture economics and rural communities. Research-only, extension-only, and integrated research, education and/or extension projects are solicited. **Applications due 31 December.**

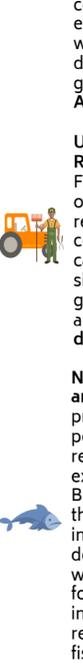
December
Climate Change and Health Demonstration Sites. The National Association of County and City Health Officials is providing funding that supports local efforts to track, prevent, and mitigate the health effects of climate change. This funding can be used to incorporate adaptation planning into land use, housing, and transportation design, prepare communities for extreme and unusual environmental events, and/or coordinate with local governments on all-hazards disaster planning. They will provide four groups with up to \$20,000 each. **Applications due 12 December.**

January
Cultural and Community Resilience Program. The National Endowment for the Humanities Division of Preservation and Access is accepting applications for the Cultural and Community Resilience Program. This program supports climate change-based efforts to mitigate climate change and COVID-19 pandemic impacts, safeguard cultural resources, and foster cultural resilience through identifying, documenting, and/or collecting cultural heritage and community experience. The program prioritizes projects from disadvantaged communities in the U.S., and encourages applications that use inclusive methodologies. **Applications due 12 January.**

USDA Regional Food Business Centers Request for Applications. The Regional Food Centers will serve as the cornerstone of USDA's development of local and regional supply chains. They will offer coordination, technical assistance, and capacity building support to small and mid-sized food and farm businesses, with the goal of creating a more resilient, diverse, and competitive food system. **Applications due 15 December.**

Building Resilient Infrastructure and Communities Program. This program funds states, U.S. territories, Indian tribal governments, and local communities for pre-disaster mitigation, with a focus on disasters, risks, and hazards, including those associated with climate change. The program offers support through capability- and capacity-building, innovation, promoting partnerships and enabling investments to reduce risk from natural hazards, providing an opportunity to reduce losses and minimize impacts on the Disaster Relief Fund, promoting equity, and supporting building codes, standards, and policies that will protect the health, safety, and welfare of the public. **Applications due 27 January.**

National Fish Passage Program, U.S. Fish and Wildlife Service. This voluntary program aims to maintain or increase fish populations to improve ecosystem resilience and to provide quality fishing experiences for the American people. Building resilience for fish populations through improved habitat will be important because climate change will decrease summer river flow and increase water temperature, making it more difficult for fish to survive. Example project types include dam removals, culvert replacements, and the installation of fishways. **Applications due 30 December.**



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